IMB 2009 highlights

SPIDER SECRETS DECODED IN WORLD-FIRST DATABASE

Queensland scientists have developed a world-first database that catalogues the venom components from hundreds of spiders.

Queensland Treasurer and Minister for Employment and Economic Development Andrew Fraser launched the database, saying scientists worldwide were now better able to investigate how spider toxins could be put to good use as natural insect sprays or pain killers.

► National honour for IMB scientist

Professor Rob Parton became the only newly-elected Queensland-based researcher to be selected as a Fellow of the Australian Academy of Science, one of the highest scientific honours in Australia.

Professor Parton was selected for his work on the cell surface, which has a range of applications including the potential to improve drug delivery and better understand prostate cancer.

► UQ scientist to help guide future of Australian medical research

Professor Melissa Little became one of only two Queenslanders to be appointed to a the National Health and Medical Research Council's (NHMRC) Research Committee. The Committee advises on medical and public health research in Australia, as well as making recommendations on research grant applications and funding.

► Accelerating the discovery of drugs from venoms

A new method developed to identify and characterise individual molecules in the venom of animals such as the cone snail has the potential to accelerate the discovery of life-saving drugs.

A team from the IMB and Rockefeller University in New York have devised the method, which will speed up the sequencing of mini-proteins known as peptides and allow them to be screened for medical uses.

► Finding a pathway to new virus drugs

IMB researchers took an important step in the characterisation of a viral infection pathway, which may potentially lead to the development of new drugs targeting a broad range of viruses including HIV and Ebola virus.

Dr Michael Landsberg, in conjunction with four other scientists, recently solved the 3D structure of a key controlling enzyme in the pathway of enveloped virus infection. A number of viruses appear to hijack this pathway to facilitate their own spread from infected to healthy cells within an organism.

► The smallest turn – an alpha-helical bond mimetic

A new approach has been developed to mimic helices that occur frequently within proteins and peptides and often present an interaction site for other proteins. A team led by Professor Paul Alewood developed the approach; such a mimetic will underpin new peptidomimetic drugs of the future.

GRANTS

RECORD FUNDS FOR CANCER FIGHT

A new IMB centre will give hope to patients with two of Australia's most fatal cancers. Researchers used a $5 million grant from the Queensland State Government to establish the Queensland Centre for Medical Genomics, which will be based at the IMB and run by Professor Sean Grimmond.

The Centre will seek to unlock the genetic causes of ovarian and pancreatic cancer, and has already attracted extra funding, including $27.5 million from the National Health and Medical Research Council, the largest grant the NHMRC has ever awarded.